Montana's Community Types
of Greatest Conservation Need

Although fish and wildlife communities have not yet been defined for all of Montana, enough information exists about fish, wildlife and their associated habitats to begin describing community types. The following are the community types identified as in the greatest need of conservation statewide. Large numbers of Tier I species can be found in these communities. The success of these and many other species will depend on conserving these community types regardless of the geographic location they are found in.

Grassland Complexes

Grassland communities occur in broad western mountain valleys, high mountain meadows, and on the plains of eastern Montana. Very low to high cover grasses are characteristic of these areas. This array of grass types are found in open lands and often interspersed among shrubs. This community type is essentially associated with more terrestrial species in greatest need of conservation than any other community type in Montana.

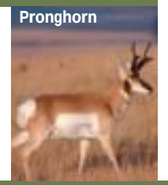
Fauna Associations

Total Essentialists*:

Amphibians: 7
Reptiles: 12
Birds: 121
Mammals: 62

Tier One Species: 23

*Species that depend on this habitat for breeding and survival.

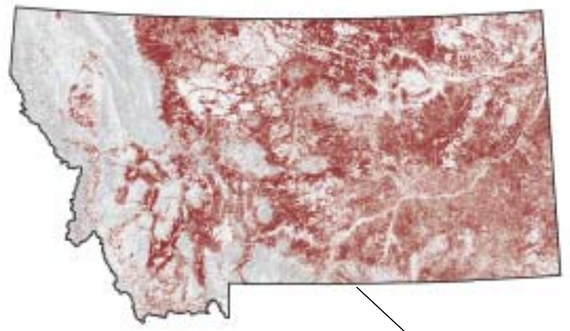


Total Generalists‡:

Amphibians: 3
Reptiles: 5
Birds: 134
Mammals: 20

Tier One Species: 9

‡Species that thrive in this and other habitats ***and*** benefit from its conservation.



Grassland Complexes comprise 31,551,627 acres or about 34% of Montana

Conservation

Concerns	Strategies
Spread of noxious weeds and non-native plants, especially knapweed, leafy spurge, and cheatgrass.	Prevent introduction and spread of noxious weeds on existing tracts of palouse prairie; Restore areas infested with the highly flammable, invasive cheatgrass, returning them to native grasses and forbs; Create a stable native seed source for grass restoration.
Impacts from oil, gas, geothermal, and coal extraction and development.	Monitor leasing and development decisions and regulations applying to geophysical exploration; Work with corporations, land owners and other agencies to reduce impacts of exploration; Conduct research to determine impacts from petroleum exploration and extraction activities.
Fragmentation and habitat loss due to agricultural and subdivision development.	Promote incentives and education for private landowners to protect natural habitat; Support strategic conservation easements by conservation organizations and public agencies to provide large blocks of short grass types in a diverse mosaic of habitats; Identify and prioritize key wildlife linkage areas, and work with other state and federal agencies, conservation groups, and landowners to restore wildlife connectivity; Promote further development of county ordinances that help guide future residential and commercial development.
Range or forest management practices.	Support government and private conservation activities that encourage and support sustainable land management practices (example: rest and rotation schedules).
Lack of sufficient habitat cover data layers.	Support cooperative efforts to develop up to date, comprehensive habitat cover layers.

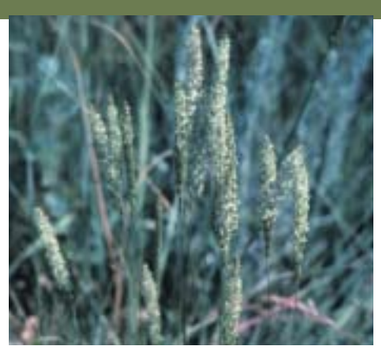
Flora Associations

Blue Grama

Missouri Goldenrod

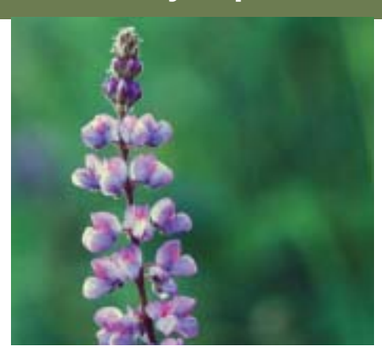
Needle and Thread Grass

Prairie June Grass



Prickly Pear Cactus

Silvery Lupine



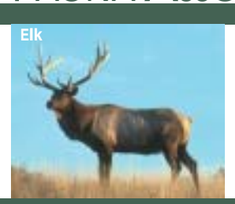
Mixed Broadleaf Forests:
Woody Draws and Aspen Galleries

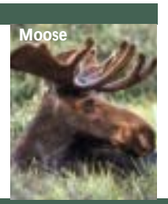
Woody draws are drier, upland streambed-type areas, characterized by a great diversity and density of vegetation similar to wetlands. These ribbons of life throughout eastern Montana provide essential cover, food and water for high concentrations of wildlife.

Aspen galleries often occur within grassland openings or along the border between grassland openings and coniferous forests. From native tall-grass or mixed-grass prairie plants to wet meadow species, mature aspen galleries promote understory growth of a rich variety of grasses, wildflowers and shrubs. They provide unique foods including seeds, berries or nuts for an equally diverse array of wildlife.

Fauna Associations

Total Essentialists*:





Birds: 2
Mammals: 3

Tier Two Species:
Black & White Warbler

*Species that depend on this habitat for breeding and survival.

Total Generalists‡:

Birds: 15
Mammals: 6

Tier Two Species:
American Bittern, Blue Grouse, Veery, Yellow-breasted Chat

‡Species that thrive in this and other habitats ***and*** benefit from its conservation.

Mixed Broadleaf Forests
comprise
883,498 acres
or about
1% of Montana

Conservation

Concerns

All Broadleaf Forests

Loss of broadleaf forest habitat due to rangeland and forest management practices, clearing for agricultural use, and impacts related to human population growth.

Woody Draws

Loss of mature snags in woody draw areas.

Loss of shrub layers and lack of overstory recruitment due to range management practices in woody draws.

Aspen Galleries

Altered natural fire regime in aspen galleries (increases encroachment of conifers).

Strategies

Work with agency and private land conservation efforts to place easements on lands and implement resource management for aspen galleries, cottonwood forests and woody draws;
Promote incentives and education for private landowners to protect all three broadleaf forest types.

Promote public education of the need to preserve older snags in woody draws;
Support initiatives to reestablish and maintain green ash in woody draws.

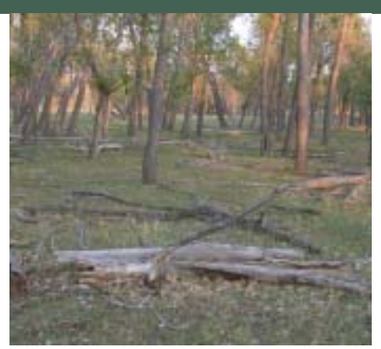
Work with public and private landowners to provide incentives for sustainable management;
Work to develop best management principals for woody draw habitats.

Work with other agencies of authority to reestablish natural fire regime to promote aspen gallery health.

Flora Associations

Buffaloberry

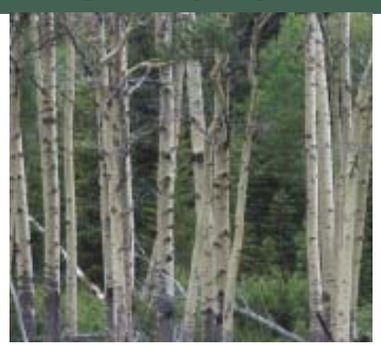
Cottonwood



Green Ash

Paper Birch

Quaking Aspen



Thimble Berry

Mixed Shrub/Grass Associations

The mixed shrub community types are shrub-dominated areas that also support grass. These types can be either moist (mesic, found mostly in east Montana) or dry (xeric, found mostly in western Montana). They usually occur at low elevation and often along lower slopes. These communities are the transition between pure shrub and grass communities. They support a very unique assembly of species.

Fauna Associations

Total Essentialists*:

Reptiles: 2
Birds: 3
Mammals: 5

Tier One Species:
Black-tailed Prairie Dog
Milksnake
Spotted Bat

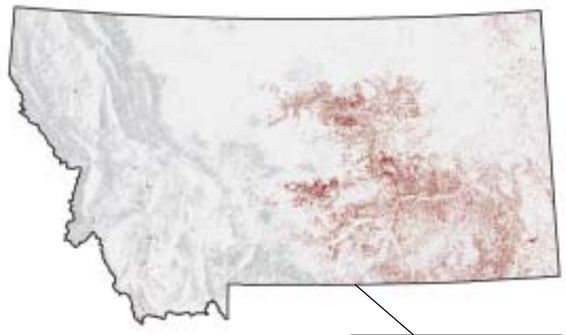
*Species that depend on this habitat for breeding and survival.

Total Generalists‡:

Reptiles: 2
Birds: 17
Mammals: 6

Tier One Species:
Burrowing Owl
Mountain Plover
Greater Sage-Grouse
Western Hog-nosed Snake

‡Species that thrive in this and other habitats ***and*** benefit from its conservation.



Mixed Shrub/Grass Associations comprise 4,159,693 acres or about 5% of Montana

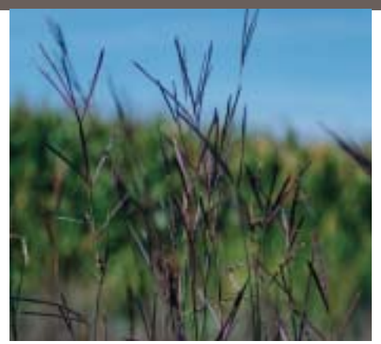
Conservation

Concerns	Strategies
Loss of habitat due to conversion of native habitat to agriculture or as a result of human population growth/ development.	**Support private land easements that protect natural habitat to** provide large blocks of a diverse mosaic of shrub/grass habitats; **Develop incentives and education for private landowners to protect** natural habitat; **Support government and private conservation programs/activities** that encourage and support private land stewardship; **Identify and prioritize key wildlife linkage areas in this community,** and work with other state and federal agencies, conservation groups, and landowners to restore wildlife connectivity.
Invasive species and potential for spreading.	**Work with off-road vehicle users to help reduce spread of invasive** weed; **Create a stable native seed source for shrubs and grass restoration;** **Support cooperative efforts to reduce the abundance of exotic or** invasive plant species.
Oil, gas, coal, coal bed methane, and geothermal development.	**Monitor leasing and development decisions and regulations applying** to geophysical exploration; **Research the impacts such as road building and water retention pond** construction as they relate to gas and oil development activities.
Range or forest management practices.	**Support government and private conservation activities that** encourage and support sustainable land management practices (example: rest and rotation schedules).

Flora Associations

Four-wing Shade Scale

Big Bluestem



Idaho Fescue

Snowberry

Sumac

Yucca

Riparian & Wetland

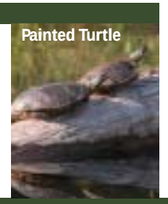
Montana's riparian and wetland communities vary widely depending on the area of the state and elevation where they are located. Generally they represent the green zones along rivers, streams, lakes and reservoirs and include potholes, wet meadows, marshes and bogs. As a result of the adjacent water, these communities support the greatest concentration of plants and animals in Montana, serving as a unique transition zone between the aquatic and the terrestrial environments.

Fauna Associations

Total Essentialists*:

Amphibians: 16
Reptiles: 6
Birds: 149
Mammals: 22

Tier One Species: 17

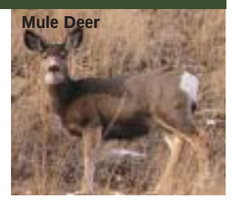


*Species that depend on this habitat for breeding and survival.

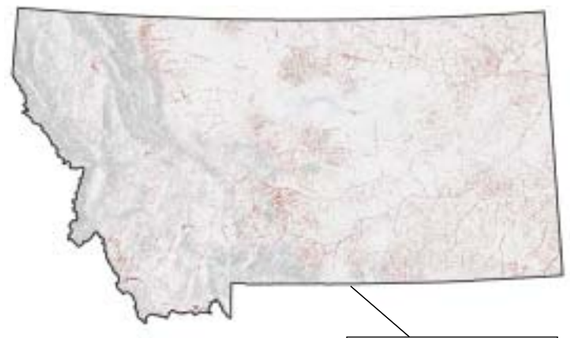
Total Generalists‡:

Reptiles: 5
Birds: 32
Mammals: 35

Tier One Species:
Western Hog-nosed Snake
Townsend's Big-eared Bat
Pygmy Rabbit



‡Species that thrive in this and other habitats ***and*** benefit from its conservation.



Riparian & Wetland comprise 3,724,224 acres or about 4% of Montana

Conservation

Concerns

All Riparian and Wetland

Draining and conversion of wetlands to agricultural cropland and subdivisions.

Loss of riparian habitat due to streamside residential development.

Adjacent uplands effected by range and forest management practices.

Invasive or exotic plant species.

Lack of a GIS coverage of wetlands across Montana.

Road construction that disrupts hydrologic patterns.

Cottonwood Stands

Flood control and channelization through riprap and dams. Culverts, dams, irrigation diversions, and other instream barriers that fully or partially alter natural flood regimes (eliminates cottonwood regeneration).

Unsustainable harvest of older cottonwoods for lumber or pulp.

Strategies

Work with other groups to identify riparian areas and wetlands that are critically important to wildlife diversity and work toward protection and enhancement;
Develop statewide best management principals for Montana's riparian and wetland areas.

Support strategic conservation easements by conservation organizations and public agencies.

Support government and private conservation activities that encourage and support sustainable land management practices.

Support efforts to eradicate exotic or invasive plant species.

Partner with other agencies to develop up-to-date comprehensive wetland and riparian GIS coverage.

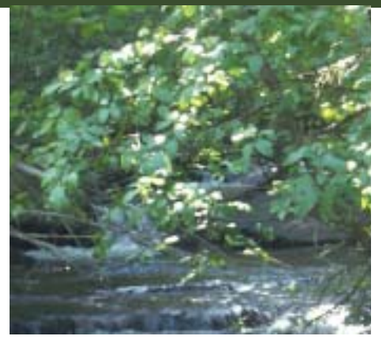
Work with department of transportation to minimize and mitigate impacts of new and existing road development including streambank stabilization.

Work with appropriate authorities to restore or mimic historic hydrograph to promote productive cottonwood stands in river corridors.

Maintain and recruit old-growth trees for snags used by cavity-nesting species.

Riparian & Wetland Types

Broadleaf



Conifer

Graminoid Forb

Intermittent Shrub

Prairie Pothole

Shrub

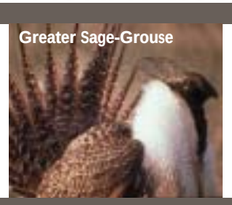
Sagebrush & Salt Flats

The sagebrush community includes all sagebrush and their associated grass and shrub. Specific attention is focused on the "shrub steppe," which is a transitional zone between arid shrubland, semiarid grassland, and salt flats occurring in southeast Montana. The communities can be visualized as a mosaic of sagebrush species that occur in discontinuous pockets throughout Montana, but mostly in the eastern two thirds.

Sagebrush & Salt Flats
comprise
5,625,886 acres
or about
6% of Montana

Fauna Associations

Total Essentialists*:



Amphibians: 1
Reptiles: 1
Birds: 8
Mammals: 13

Tier One Species: 7

*Species that depend on this habitat for breeding and survival.

Total Generalists‡:

Amphibians: 3
Reptiles: 7
Birds: 32
Mammals: 16

Tier One Species:
Snapping Turtle
Western Hog-nosed Snake
Mountain Plover
Long-billed Curlew
Black-tailed Prairie Dog

‡Species that thrive in this and other habitats ***and*** benefit from its conservation.

Conservation

Concerns

Range management practices and conversion to agriculture, which alter the distribution and condition of Montana's sagebrush habitat.

Invasion of weeds and woody and non-native species.

Loss of sagebrush as a result of human population growth/development.

Oil, gas, and geothermal exploration and development.

Impacts from recreational use.

Strategies

Protect large blocks of healthy sagebrush through conservation easements;
Work with private landowners through landowner incentives and conservation easements to protect critical habitats.

Support cooperative efforts to reduce invasive and exotic plant species;
Work with off-road vehicle users to help reduce spread of invasive weeds.

Support strategic conservation easements by conservation organizations and public agencies;
Identify and prioritize key wildlife linkage areas, and work with other state and federal agencies, conservation groups, and landowners to restore wildlife connectivity.

Monitor leasing and development decisions and regulations applying to geophysical exploration;
Conduct research on fossil fuel development and its impacts on sagebrush.

Work with the public and other agencies to establish sustainable recreation management practices, including designations of lands open, limited, or closed to off-road vehicle use.

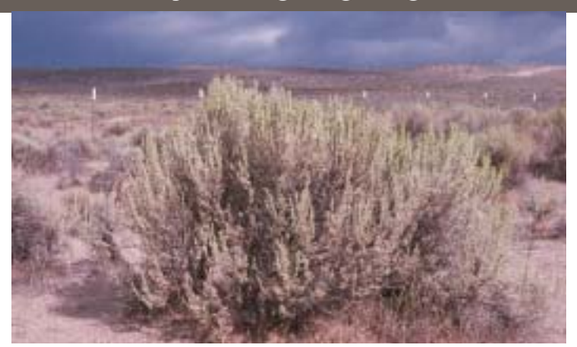
Flora Associations

Basin Big Sage

Black Sage

Mountain Big Sage

Wyoming Big Sage



Mountain Streams

Mountain streams of western Montana are typically cold and clear. They serve as the headwaters for all major river systems in Montana. Mountain streams often flow through montane conifer forests beginning at the highest elevations and are home to abundant native fish species. Many of these fish are imperiled and represent the remaining stocks of Montana's westslope cutthroat and bull trout.

Fauna Associations

Total Essentialists*:

Mussels: 1
Crayfish: 1
Fish: 15

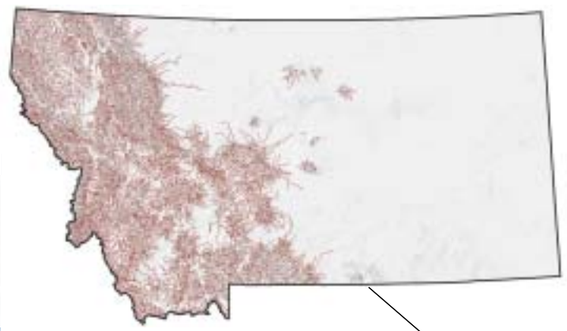
Tier One Species: 7

*Species that depend on this habitat for breeding and survival.

Total Generalists‡:

Species found in this Community Type typically have essential associations.

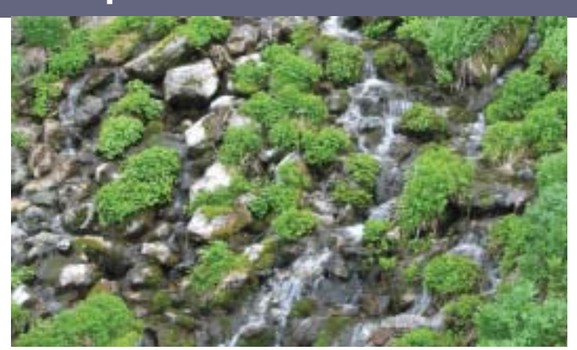
‡Species that thrive in this and other habitats ***and*** benefit from its conservation.



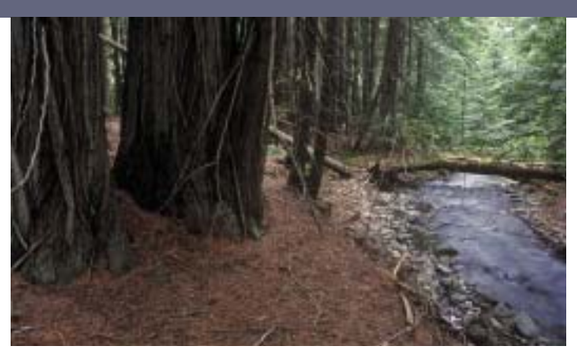
Mountain Streams comprise 59,364 Stream Miles in Montana

Stream Types

Alpine Headwaters Stream

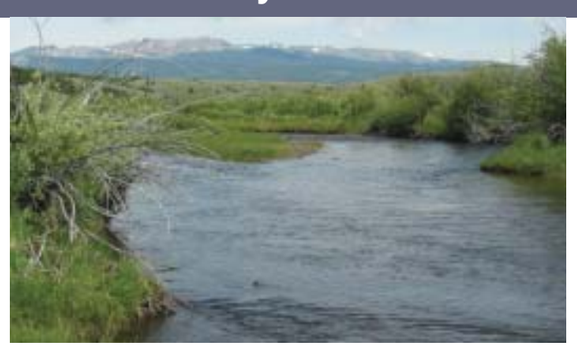


Forested Stream



Glacial Stream

Valley Stream



Conservation

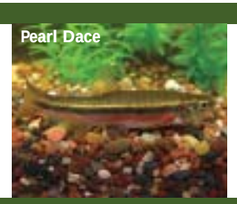
Concerns	Strategies
Riparian habitats effected by roads, housing developments, and range and forest management practices that degrade the adjacent riparian habitat and stream channel.	**Support government and private conservation activities that** encourage and support sustainable land management practices in riparian areas; **Develop statewide riparian best management principles**; **Use conservation easements and cooperative efforts to address human** population growth and related impacts; **Work with Department of Transportation to mitigate for impacts of** new and existing roads and highways.
Stream dewatering.	**Protect instream flow reservations**; **Increase instream flows through water leasing and water conservation** measures; **Increase installation of stockwater wells in place of irrigation** ditches.
Entrainment of fish in irrigation diversions.	**Screen or modify irrigation diversions or other water intakes in a** manner that prevents entrainment of fishes.
Stream channel alteration.	**Restore stream channels, streambanks and riparian areas to a condition** that simulates their natural form and function.
Introductions of non-native fishes.	**Protect native species through habitat protection and enhancement,** controlling and in some cases removing non-native species, and restoring or introducing native fishes into suitable waters.

Prairie Streams

There are at least 18,000 miles of prairie streams in Montana that have water either intermittently or permanently flowing through them in an otherwise dry region. These low elevation streams east of the Rocky Mountains are warmer than their counterparts in western Montana. They support an equally rich, but different, variety of fish. Many of these streams are slow moving, sometimes turbid and weedy. They offer good rearing habitat for associated fish species and support many amphibians and reptiles. They are also crucial for populations of terrestrial wildlife.

Fauna Associations

Total Essentialists*:



Mussels: 2
Crayfish: 2
Fish: 21

Tier One Species:
Pearl Dace

*Species that depend on this habitat for breeding and survival.

Total Generalists‡:

Species found in this Community Type typically have essential associations.

‡Species that thrive in this and other habitats ***and*** benefit from its conservation.

Prairie Streams comprise 91,189 Stream Miles in Montana

Conservation

Concerns	Strategies
Prairie stream riparian habitat effected by range management practices.	**Support government and private conservation activities that** encourage and support sustainable land management practices; **Support all management practices that maintain riparian vegetation** and streambank and channel stability in excellent condition.
Stream diversions and dewatering.	**Implementation of various water conservation or flow management** practices that restore essential habitats and simulate the natural hydrograph; **Protect instream flow reservations;** **Increase installation of stockwater wells in place of irrigation ditches;** **Increase instream flows through water leasing and water** conservation measures.
Entrainment of fish in irrigation diversions.	**Screen or modify irrigation diversions or other water intakes in a** manner that prevents entrainment of fishes.
Poorly understood impacts of petroleum exploration and extraction.	**Increase research and scientific studies on impacts of coal bed methane** on prairie stream environments in both Montana and Wyoming.
Introductions of non-native fishes.	**Develop programs to help control exotic species and promote natural** habitats that support native species; **Protect native species through habitat protection and enhancement,** controlling and in some cases removing non-native species, and restoring or introducing native fishes into suitable waters.

Stream Types

Great Plains Intermittent

Great Plains Prairie

Northern Glaciated Intermittent

Northern Glaciated Plains

Montana's Species of Greatest Conservation Need